

AMENDMENTS TO THE CLAIMS:

The three pages of Claims on page 31, 31/1 and 31/2 attached to this Amendment incorporate the Annexes under PCT Article 34 for substitution of page 31 of the English translation of the original application. The following Listing of Claims were amended from the substitute sheets.

LISTING OF CLAIMS:

On page 31, line 1, please delete the current heading "CLAIMS" and insert the following new heading:

~~CLAIMS~~ What is Claimed Is: .

The following Listing of Claims will replace all prior versions and listings of claims in the application:

1. (Original) A seamless capsule including a filler material and a shell which encapsulates the filler, wherein

the mass ratio of the shell to the filler material is 5:95 to 70:30;

the shell comprises (a) a shell material and (b) a crystallization agent which is at least one or two or more selected from a group consisting of sorbitol, mannitol, xylitol, erythritol, paratinitt, lactitol, maltitol, trehalose, and saccharose;

the shell includes crystals which are formed by deposition of the crystallization agent when a shell liquid including the shell material and the crystallization agent is hardened;

the shell is substantially opaque due to the presence of the crystals; and

the seamless capsule is manufactured by conducting the following steps A to E in order,

step A: preparing a core liquid that includes the filler material and the shell liquid in which the shell material is dissolved;

step B: using a coaxial multiple nozzle having an inner nozzle and an outer nozzle that surrounds the inner nozzle, supplying the core liquid to the inner nozzle and the shell liquid to the outer nozzle so as to extrude them, and forming multilayer liquid drops by extruding a multilayer jet from the coaxial multiple nozzle;

step C: hardening the shell liquid while the multilayer liquid drops flow in a hardening liquid that flows through a pass, and forming seamless capsules in which the core liquid is surrounded by the shell material;

step D: separating the seamless capsules from the hardening liquid that surrounds them;

and

step E: eliminating the hardening liquid adhering to the surface of the seamless capsules that have been separated from the hardening liquid, and at the same time forming seamless capsules that do not substantially stick to each other by drying their surfaces.

2. (Original) The seamless capsule according to claim 1, wherein the shell includes one or two or more plasticizers selected from a group consisting of glycerol, propylene glycol, and polyethylene glycol.

3. (Currently Amended) The seamless capsule according to claim 1 ~~or~~ 2, wherein the addition amount of the crystallization agent is 10 to 80% by mass based on the total amount of the shell, excluding water.

4. (Original) A production method to prepare a seamless capsule, wherein the particle diameter of the seamless capsule is 0.5 to 20 mm and the mass ratio of a shell to a filler material of the seamless capsule is 5:95 to 70:30, and the method including:

step A: preparing a core liquid that includes the filler material and a shell liquid which includes (a) a shell material and (b) a crystallization agent which is at least one or two or more selected from a group consisting of sorbitol, mannitol, xylitol, erythritol, paratinitt, lactitol, maltitol, trehalose, and saccharose;

step B: using a coaxial multiple nozzle having an inner nozzle and an outer nozzle that surrounds the inner nozzle, supplying the core liquid to the inner nozzle and the shell liquid to the outer nozzle so as to extrude them, and forming multilayer liquid drops by extruding a multilayer jet from the coaxial multiple nozzle;

step C: hardening the shell liquid while the multilayer liquid drops flow in a hardening liquid that flows through a pass, and forming seamless capsules in which the core liquid is surrounded by the shell material, and the shell is substantially opaque due to the presence of crystals which are formed by deposition of the crystallization agent:

step D: separating the seamless capsules from the hardening liquid that surrounds them;
and

step E: eliminating the hardening liquid adhering to the surface of the seamless capsules that have been separated from the hardening liquid, and at the same time forming seamless capsules that do not substantially stick to each other by drying their surfaces.

5. (New) The seamless capsule according to claim 2, wherein the addition amount of the crystallization agent is 10 to 80% by mass based on the total amount of the shell, excluding water.

CLAIMS

1. (Amended) A seamless capsule including a filler material and a shell which encapsulates the filler, wherein

the mass ratio of the shell to the filler material is 5:95 to 70:30;

the shell comprises (a) a shell material and (b) a crystallization agent which is at least one or two or more selected from a group consisting of sorbitol, mannitol, xylitol, erythritol, paratinitt, lactitol, maltitol, trehalose, and saccharose;

the shell includes crystals which are formed by deposition of the crystallization agent when a shell liquid including the shell material and the crystallization agent is hardened;

the shell is substantially opaque due to the presence of the crystals; and

the seamless capsule is manufactured by conducting the following steps A to E in order,

step A: preparing a core liquid that includes the filler material and the shell liquid in which the shell material is dissolved;

step B: using a coaxial multiple nozzle having an inner nozzle and an outer nozzle that surrounds the inner nozzle, supplying the core liquid to the inner nozzle and the shell liquid to the outer nozzle so as to extrude them, and forming multilayer liquid drops by extruding a multilayer jet from the coaxial multiple nozzle;

step C: hardening the shell liquid while the multilayer liquid drops flow in a hardening liquid that flows through a pass, and forming seamless capsules in which the core liquid is surrounded by the shell material;

step D: separating the seamless capsules from the hardening liquid that surrounds them;
and

step E: eliminating the hardening liquid adhering to the surface of the seamless capsules that have been separated from the hardening liquid, and at the same time forming seamless capsules that do not substantially stick to each other by drying their surfaces.

2. (Original) The seamless capsule according to claim 1, wherein the shell includes one or two or more plasticizers selected from a group consisting of glycerol, propylene glycol, and polyethylene glycol.

3. (Original) The seamless capsule according to claim 1 or 2, wherein the addition amount of the crystallization agent is 10 to 80% by mass based on the total amount of the shell, excluding water.

4. (Amended) A production method to prepare a seamless capsule, wherein the particle diameter of the seamless capsule is 0.5 to 20 mm and the mass ratio of a shell to a filler material of the seamless capsule is 5:95 to 70:30, and the method including:

step A: preparing a core liquid that includes the filler material and a shell liquid which includes (a) a shell material and (b) a crystallization agent which is at least one or two or more selected from a group consisting of sorbitol, mannitol, xylitol, erythritol, paratinitt, lactitol, maltitol, trehalose, and saccharose;

step B: using a coaxial multiple nozzle having an inner nozzle and an outer nozzle that surrounds the inner nozzle, supplying the core liquid to the inner nozzle and the shell liquid to the outer nozzle so as to extrude them, and forming multilayer liquid drops by extruding a multilayer jet from the coaxial multiple nozzle;

step C: hardening the shell liquid while the multilayer liquid drops flow in a hardening liquid that flows through a pass, and forming seamless capsules in which the core liquid is surrounded by the shell material, and the shell is substantially opaque due to the presence of crystals which are formed by deposition of the crystallization agent:

step D: separating the seamless capsules from the hardening liquid that surrounds them; and

step E: eliminating the hardening liquid adhering to the surface of the seamless capsules that have been separated from the hardening liquid, and at the same time forming seamless capsules that do not substantially stick to each other by drying their surfaces.